

REMARKS/ARGUMENT

Claims 4-10, 30-35 and 38 are allowed.

Claims 11, 13 and 14, allowable if amended to overcome the objection set forth by Examiner, have been so amended. Accordingly, Claims 11-14 stand allowable.

Claims 36 & 37, allowable if rewritten or amended to overcome the rejections(s) under 35 U.S.C. 112, 2nd paragraph, have been so amended. Accordingly, Claims 36 & 37 stand allowable.

Claims 18-27 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Applicant respectfully traverses this rejection, as set forth below.

Independent Claim 18 requires and positively recites, a method of transmitting a spread spectrum communications signal, comprising the steps of:

applying at least one peak compression pulse to the spread spectrum signal at a first peak sample point, the magnitude of the signal at the first peak sample point exceeding a peak qualifying threshold, to produce a peak-compressed symbol stream.

repeating, at least twice, the applying step on the peak-compressed symbol stream, wherein each applying step comprises:

identifying a peak location and a filter value corresponding to an amplitude at a peak location in the spread spectrum signal;

producing a cancellation pulse corresponding to the identified peak location and the corresponding filter value;
delaying the spread spectrum signal to match the peak location;
and
combining the delayed received signal and the cancellation pulse;
amplifying an analog modulated signal corresponding to a peak-compressed symbol stream from the last of the repeated applying steps to produce the signal to be transmitted.

Independent Claim 22 requires and positively recites, a method of transmitting a spread spectrum communications signal, comprising the steps of:

applying at least one peak compression pulse to the spread spectrum signal at a first peak sample point, the magnitude of the signal at the first peak sample point exceeding a peak qualifying threshold, to produce a peak-compressed symbol stream;

repeating, at least once, the applying step on the peak-compressed symbol stream;

amplifying an analog modulated signal corresponding to a peak-compressed symbol stream from the last of the repeated applying steps to produce the signal to be transmitted;

wherein each applying step comprises:

identifying a peak location and a filter value corresponding to an amplitude at a peak location in the spread spectrum signal;

producing a cancellation pulse corresponding to the identified peak location and the corresponding filter value;

delaying the spread spectrum signal to match the peak location;
combining the delayed received signal and the cancellation pulse;

wherein the identifying step comprises:

generating a curve-fitting estimate over a delay interval
near a sample point;

determining the peak location within the delay interval
from the curve-fitting estimate;

evaluating the amplitude at the determined peak location;

comparing the evaluated amplitude against a peak
qualifying threshold; and

producing the filter value responsive to the evaluated
amplitude;

comparing a magnitude of each sample point in the received symbol
stream with magnitudes of one or more neighboring samples;

pre-qualifying a sample point if its magnitude is greater than that of the
one or more neighboring samples;

wherein the identifying step is performed for pre-qualified sample points.

Independent Claim 23 requires and positively recites, a method of
transmitting a spread spectrum communications signal, comprising the steps
of:

**applying at least one peak compression pulse to the spread spectrum
signal at a first peak sample point**, the magnitude of the signal at the first peak
sample point exceeding a peak qualifying threshold, **to produce a peak-
compressed symbol stream**;

**repeating, at least once, the applying step on the peak-compressed
symbol stream;**

amplifying an analog modulated signal corresponding to a peak-compressed symbol stream from the last of the repeated applying steps **to produce the signal to be transmitted;**

wherein each applying step comprises:

identifying a peak location and a filter value corresponding to an amplitude at a peak location in the spread spectrum signal;

producing a cancellation pulse corresponding to the identified peak location and the corresponding filter value;

delaying the spread spectrum signal to match the peak location;

combining the delayed received signal and the cancellation pulse;

wherein the identifying step comprises:

generating a curve-fitting estimate over a delay interval near a sample point;

determining the peak location within the delay interval from the curve-fitting estimate;

evaluating the amplitude at the determined peak location;

comparing the evaluated amplitude against a peak qualifying threshold; and

producing the filter value responsive to the evaluated amplitude;

responsive to the comparing step determining that the evaluated amplitude of a first sample point exceeds the peak qualifying threshold, comparing the evaluated amplitudes of peak sample points over a selected number of subsequent sample points;

wherein the producing step is performed for the first sample point responsive to no peak sample points in the selected

number of subsequent sample points having a larger evaluated amplitude than that of the first sample point; and
responsive to the comparing step determining that the evaluated amplitude of a second sample point within the selected number of subsequent sample points has a larger evaluated amplitude than that of the first sample point, inhibiting producing of the filter value for the first sample point and then repeating the comparing the evaluated amplitudes of peak sample points over a selected number of subsequent sample points relative to the second sample point.

Examiner makes the following determination in his 35 U.S.C. 101 rejection of Claims 18-27:

While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the method of including steps of applying repeating amplifying is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The claim fails to recite any corresponding hardware in combination with the method step(s) so as to effectively tie the process claim with a statutory class of invention, i.e., a particular apparatus (OA dated 06/15/2009, page 2, lines 12-20).

Examiner's determination above, however, is simply erroneous. "[w]heather a claim is drawn to patent-eligible subject matter under 35 U.S.C. § 101 is a threshold inquiry, and any claim of any claim of an application failing the requirements of § 101 must be rejected even if it meets all of the other legal requirements of patentability." In re Bilski, 545 F.3d 943, 952 (Fed. Cir.

2008)(en banc). The Federal Circuit stated that the Supreme Court's machine-or-transformation test is the "definite test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself." *Id.* At 954. As the Federal Circuit phrased the machine-or-transformation test in Bilski:

A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.

Id. (emphasis in original)(citing Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Diamond v. Diehr, 450 U.S. 175, 192 (1981); Parker v. Flook, 437 U.S. 584, 589 n. 9 (1978); Cochrane v. Deener, 94 U.S. 780, 788 (1876)).

The limitation "transmitting a spread spectrum communications signal" in independent Claims 18, 22 & 23 represents the physical transmission of an actual physical signal, i.e., a "concrete thing" that can be physically measured. The above step is NOT a "mental process", "phenomena of nature" or "abstract intellectual concept". Applicant respectfully submits that the above step can be only performed by a machine or apparatus. Thus, Claims 18, 22 & 23 are "tied" to a machine or apparatus as required by case law (meeting the first step of the Bilski test -- (1) be tied to another statutory category (such as a particular apparatus)) .

In addition to the above, the spread spectrum signal or "concrete thing" is then transformed into a different state or thing by the step "applying at least one peak compression pulse to the spread spectrum signal at a first peak sample point, the magnitude of the signal at the first peak sample point exceeding a peak qualifying threshold, to produce a peak-compressed symbol stream", which represents a transformation of the "spread spectrum signal" into "a peak-

compressed symbol stream" - which is a transformation of a concrete thing from one state to a different state or thing, which complies with "or (2) it transforms a particular article into a different state or thing", as set forth in Bilski.

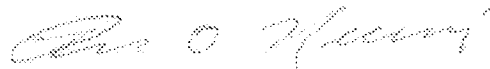
Thereafter, there is a second transformation wherein the "peak-compressed symbol stream" is transformed into a different state or thing by the step "amplifying an analog modulated signal corresponding to a peak-compressed symbol stream from the last of the repeated applying steps to produce the signal to be transmitted", which represents a transformation of the "analog modulated signal" into an "amplified modulated signal" - which is a transformation of a concrete thing from one state to a different state or thing, which complies with "or (2) it transforms a particular article into a different state or thing", as set forth in Bilski. In addition to the above, Claims 18, 22 & 23 contain various additional limitations (as bolded above) that are additional transformative steps. As a result, Claims 18, 22 & 23 do comply with the requirements of 35 U.S.C. § 101. Accordingly, the 35 U.S.C. § 101 rejection of Claims 18, 22 & 23 is improper and must be withdrawn.

Claims 19-21 and 24-27 depend directly, or indirectly, from allowable Claim 15 and are similarly allowable.

An amendment after a final rejection should be entered when it will place the case either in condition for allowance or in better form for appeal. 37 C.F.R. 1.116; MPEP 714.12. This amendment places the case in condition for allowance. At a minimum, it places the case in better form for appeal by: placing objected to claims in allowable form by reducing the number of claims (i.e., Claims 1-3 and 15-17 are canceled) and reducing the number of issues on appeal (i.e., the 35 U.S.C. 102(e), 35 U.S.C. 103(a) and 35 U.S.C. 112, second paragraph, rejections are now moot).

Claims 4-10, 30-35 and 38 are allowed. Objected to Claims 11-14, 36 and 37 have been amended to be in allowable form. Claims 18-27 stand allowable over 35 U.S.C. 101 for the reasons set forth above. Applicant respectfully requests withdrawal of the rejections and objections and allowance of the application at the earliest possible date.

Respectfully submitted,



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